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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,972	06/26/2003	Chien-Hua Chen	200208828-1	7437

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EXAMINER	
KOVAL, MELISSA J	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,972	CHEN ET AL.	
	Examiner	Art Unit	
	Melissa J Koval	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *10 and 23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11-22 and 24-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election with traverse of Embodiment 1, Species 1, Figures 1-4 and 6-8 in the reply filed on July 23, 2004 is acknowledged. The traversal is on the ground(s) that Embodiments 1 and 2 do not constitute distinct species. This is not found persuasive because applicant's statement on page 7 of his remarks as follows does not clarify applicants opinion as to why no distinction of species exists between Embodiments 1 and 2: "Although applicants still feel that it is appropriate to consider all embodiments in the present application, in the interest of furthering prosecution on the merits, applicants hereby elect Species I (Figures 1-4 and 6-8), with traverse, and withdraw claims 10 and 23 from consideration in the event that no generic claim is held allowable.". Applicant does not give any reasons for his opinion. Furthermore, in the telephone conference of July 15, 2004, a distinction between the use of an inverse prism to comprise a homogenizing element, as in withdrawn claims 10 and 23, rather than a light pipe or light pipes of the other embodiment was discussed by the examiner and applicant's representative. Furthermore, in Class 353, the search for a light pipe differs from a search for a prism.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-22, and 24-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Slobodin ('685).

Refer to Figure 1 of Slobodin, for example.

Claim 1 sets forth: "A display device, comprising:

a spectral separator configured to separate multispectral light into a plurality of light bands (See color modulating device 22 and column 3, lines 34 through 42.), and

a homogenizing element configured to homogenize at least one separated light band (See light pipe 30, and column 4, lines 11 through 16.)."

Claim 2 sets forth: "The display device of claim 1, further comprising a light source configured to produce the multispectral light." See light source 12, lamp 14, reflector 16, and polychromatic light 18.

Claim 3 sets forth: "The display device of claim 1, further comprising an image-forming element configured to form an image using the homogenized light band." See light valve 48 and column 4, lines 17 through 37.

Claim 4 sets forth: "The display device of claim 3, where the homogenized light band is configured to have a cross-section that facilitates scanning onto the image-forming element." Refer to Figure 4 of Slobodin and also column 4, lines 50 through 56. Also see column 2, lines 10 through 25, and column 3, lines 43 through 58.

Claim 5 sets forth: "The display device of claim 4, where the cross-section includes an elongate ribbon." Again refer to Figure 4 as well as Figures 5 and 6 of

Slobodin. The segments of the light pipe 30, which includes first, second, and third optically conductive cores 70, 72, and 74, meet the claimed limitation of a cross-section including an "elongate ribbon". Refer to column 4, lines 50 through 67. Furthermore, note that first through third input apertures 32, 34 and 36 of optically conductive cores 70, 72, and 74 receive first through third light beams 24, 26 and 28 in a red, green and blue sequence.

Claim 6 sets forth: "The display device of claim 1, where the spectral separator includes a prism." Refer to Figures 11A and 12A of Slobodin wherein two embodiments for a prismatic type color wheel are shown. The wheel converges then diverges light. Each embodiment shows a color wheel made from optically transparent material. See column 6, lines 30 through 67, and column 7, lines 1 through 4. "Merriam-Webster's Collegiate Dictionary, Tenth Edition," defines a prism as follows: "2 a: a transparent body that is bounded in part by two nonparallel plane faces and is used to refract or disperse a beam of light. 4: a medium that distorts, slants or colors whatever is viewed through it."

Claim 7 sets forth: "The display device of claim 1, where the spectral separator is configured to separate the multispectral light into at least three light bands." Again refer to column 3, lines 34 through 48.

Claim 8. The display device of claim 7, where the at least three light bands include red, green, and blue light bands. Claim 8 is rejected for the same reasons already applied to rejected claim 7.

Claim 9 sets forth: "The display device of claim 1, comprising at least one

homogenizing element for each separated light band." Refer to column 2, lines 33 through 42.

Claim 11 sets forth: "The display device of claim 9, where each homogenizing element includes a light pipe." Claim 11 is rejected for the same reasons already applied to rejected claim 9.

Claim 12 sets forth: "The display device of claim 1, further comprising an interlacing structure configured to interlace the separated light bands." See column 2, lines 10 through 25 of Slobodin. On page 9 of applicant's specification, applicant teaches a repeated light pattern with respect to interlacing.

Claim 13 sets forth: "The display device of claim 12, where the interlacing structure include a plurality of dichroic mirrors." Column 2, lines 10 through 25, teach the presence of a color wheel. Said color wheel or wheels are described as comprising dichroic filter segments 90B, 90G, and 90R in column 5, lines 7 through 67, and column 6, lines 1 through 15.

Claim 14 sets forth: "The display device of claim 1, where the image-forming element includes a micromirror array." See column 4, lines 24 and 25.

Claim 15 sets forth: "A method of making a display device, comprising:

providing a light source (See light source 12, lamp 14, reflector 16, and polychromatic light 18.);

providing a spectral separator configured to separate the light from the light source into a plurality of light bands (See color modulating device 22 and column 3, lines 34 through 42.);

providing a homogenizing element configured to homogenize at least one separated light band (See light pipe 30, and column 4, lines 11 through 16.);

providing an image-forming element configured to form an image from the homogenized light (See light valve 48.).

The method of making the display device is met by the teaching of Slobodin as each of the elements claimed therein is provided by the teaching of Slobodin as already discussed above.

Claim 16 sets forth: ". The method of claim 15, where providing the light source includes providing a multispectral light source (See light source 12, lamp 14, reflector 16, and polychromatic light 18.);

providing the spectral separator includes providing a prism (See the rejection of claim 6 above.);

providing the homogenizing element includes providing a light pipe (See light pipe 30, and column 4, lines 11 through 16.); and

providing the image-forming element includes providing a micromirror array (See column 4, lines 24 and 25.)."

Claim 17 is rejected for the same reasons applied to already rejected claim 12.

Claim 18 is rejected for the same reasons already applied to rejected claim 4.

Claim 19 is rejected for the same reasons already applied to rejected claim 15.

Claim 20 sets forth: "The method of claim 19, where generating multispectral light includes generating substantially white light." See column 3, lines 30 through 32,

wherein lamp 14 is described as a metal halide arc lamp. Applicant mentions metal halide lamps at the top of page 4 of his specification.

With respect to claim 21, again refer to the rejection of claim 6 above.

With respect to claims 22 and 25, see the rejection of claim 16 above.

Claim 24 sets forth: "The method of claim 19, where forming an image includes selectively reflecting the light band from a reflective image-forming element." Refer to column 4, lines 24 and 24 wherein light valve 48 is described as a reflective CMOS device.

With respect to claim 26, refer to the rejection of claim 4 above.

With respect to claim 27, refer to the rejection of claim 5 above.

With respect to claim 28, refer to the rejection of claim 7 above.

With respect to claim 29, refer to the rejection of claim 9 above.

With respect to claims 30 through 33, all of the elements claimed therein have been addressed in the rejections of claims 1-9, 10-22, and 24 through 29 as set forth above. As per the preamble of claim 30, i.e. "A storage medium readable by a processor, having embodied therein a program of commands executable by the processor to, " see controller 58 of Slobodin. Also see column 4, lines 37 through 49. The controller 58 must include the elements set forth in the preamble in order for the light valve color video projector 10 taught by Slobodin to operate as desired. Also see column 7, lines 23 through 33.

Claim 34 is rejected for the same reasons already applied to rejected claim 1.

Claim 35 is rejected for the same reasons already applied to rejected claims 2 and 3.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stark et al. U.S. Patent 5,967,636 teaches a color wheel synchronization apparatus and method.

"Merriam-Webster's Collegiate Dictionary, Tenth Edition," copyright 2001, page 925.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.